

FULWOOD URBAN DISTRICT COUNCIL.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year ending 31st. December, 1948.

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PUBLIC HEALTH DEPARTMENT,

4, VICTORIA ROAD,

FULWOOD.

REPORT OF THE MEDICAL OFFICER OF HEALTH

For the Year ending 31st December, 1948.

To the Chairman and Members of the Council of the Urban District of Fulwood.

Mr. Chairman and Members of the Council.

I have the honour to present my Annual Report for the year 1948.

It contains, as in past years, statistical figures supplied by the Registrar-General and the County Health Department upon the Births, Deaths and certain other sectionalised mortality rates. The major portion of the report is, however, devoted to the work of the Health Department of this district, and will, it is hoped, present a broad outline of the work carried out by the department for the benefit of the inhabitants of the area.

It was indicated in the Report for 1947 that recent legislation (National Health Service Act, the National Assistance Act and the Children's Act), would produce certain alterations in the character of local government in the area. These Acts were in operation for part of the year under review only, and did not produce any changes of a material character in that time, but whilst the form of the service and the returns necessary were somewhat different, the quality remained substantially the same. None of these changes affected the environmental services which were continued as in past years.

The National Health Service Act which came into force on the 5th July, 1948, transferred certain duties of the Local Health Authority to the County Council, and the responsibility for the cost of treatment of Infectious Diseases to a new body, set up under the Act, called the Regional Hospital Board. The Local Sanitary Authority remained responsible for the investigation into cases of Infectious Disease, for the disinfections of houses, premises, etc., for the proper recording of cases and for the control of epidemics.

Services such as Immunisation against Diphtheria, previously the responsibility of the Local Authority, were transferred to the County Council, and Local Ambulance Services were likewise transferred.

In Lancashire a new organisation was set up of Health Divisions, which became responsible for those Services transferred to the County Council, as well as other duties imposed upon the County Council under the Act. The Health Divisions, 17 in number, covered the whole area of the County Council and to these divisions were delegated the day-to-day administration of the National Health Service Act. To the divisional Health Committees each constituent Local Authority appointed representatives in proportion to its population. Thus some portion of local administration can be preserved in the new organisation.

Health Division No. 4 contained Fulwood as one of its constituent Local Authorities.

The year 1948 was not marked by the occurrence of any outbreaks of disease of a type causing mortality or excessive morbidity. Fortunately the cases of Polliomyelitis which appeared in the previous year were not repeated. The epidemic which started in 1947 continued into 1948, but the cases continued to be of a mild type though highly infectious. On the whole the year under review could be considered to be a satisfactory one from the health point of view. All the Mortality Rates were lower than in the previous year, and it was gratifying to see the reduction in the Infantile Mortality Rate.

The Birth Rate was lower, but this would appear to be usual in the years following the conclusion of a War, when housing conditions for young married persons are usually difficult.

The supervision over the purity of foods, especially milk and ice cream, was continued throughout the year. The improvement noted in former years continued, but constant and potent efforts must be devoted to this side of the Department's work, if even a reasonable degree of purity be desired. Constant sampling, visits to farms, education and practical tuition will always be necessary and cannot be relaxed. Useful results have been noted already in this campaign, not only in milk but also in ice cream, but eternal vigilance must be exercised if further improvement is to be sought.

Physical Features of the Area.

The Urban District covers an area which is roughly oblong in shape, with a long axis lying between East and West. The height of the district above the datum line is 190 feet in the North-East, falling to 55 feet in the South-East, with gentle rises and falls characterising the whole area.

Within the district there are three streams flowing from East to West, Savick Brook, Sharoe Brook and Eaves Brook forming the Southern Boundary of the area, separating it from the County Borough of Preston. Geologically the area is part of the Lancashire Plain, which is floored with red rocks of the Triassic age. (These rocks may be seen at the base of the Cliffs at Blackpool.) Superficial to the rocks are three layers of Glacial Drift: The Lower Boulder Clay, the Drift Sand and the Upper Boulder Clay. The depths of these three layers vary throughout the district. In

the North-Eastern part there are many bluffs which are composed entirely of drift sand with a covering of Upper Boulder Clay varying in thickness. Some of the bluffs consist of a core of Boulder Clay and a surround of Drift Sand. All the bluffs rest on a base of Lower Boulder Clay many feet thick. At the Western side of the district the Upper Boulder Layer is 22 feet in thickness resting upon 30 feet of sand, with a varying layer of Lower Boulder Clay underneath. The Triassic Rock surface is little above the existing sea level but presents a gentle inclined plane rising to the Pennines, and the Glacial Drift layers upon it often reach 170 feet in thickness. The Pebbles and Boulders found in the Drift Layers consist of Yoredale Grits, Limestone, Lake District Traps, Granite, Volcanic Ash and occasionally Griffel Granite. Water-bearing seams occur at the surface of the Lower Boulder Clay and on thin beds of Clay in the Middle Drift.

Statistics and Social Conditions of the Area.

Area in Acres					3,268
Population (Census 1931)			•••		7,387
Registrar-General's estimate of	of population	n (Mid	-1948)		12,680
Number of inhabited houses	(Census 19	931)		•••	1,501
Number of inhabited houses	(Rate Book	1948)			3,548
Rateable Value			• • •		£86,,000
Sum represented by a Penny	Rate				£350

Social Conditions and Amenities of the District.

The district is a residential one with Dairy Farms at the periphery, and a small amount of cultivation in these farms. A Steam Laundry employs local labour and represents industry.

There are seven Churches in the district representing various denominations. Four of these possess Church Halls which are used for activities of religious and social characters, for the benefit of their congregations and the people of the district. Concerts, Dances, Dramatic Art and Lectures are held at these Halls throughout the year.

Recreation and Sports were well catered for by a Golf Club, three Tennis Clubs, a Bowling Green (and many greens at hotels), a Sports Club and Youth Centre with sports sections.

In the two Council Schools in the district, there are many evening activities, and in one denominational school a successful band has been in existence for many years.

In addition, many organisations of local inhabitants exist for the purpose of lectures, debates and discussions upon affairs of national and local interest.

There are several Public Institutions in the area, some for the housing of those in the declining years of life, and others for the rising generations.

There was no evidence of unemployment amongst the inhabitants of the district in 1948.

Vital Statistics.

Births.									1948	
Live Births—								Μ.	F.	Total
Legitimate			•••	•••	•••			99	82	181
Illegitimate					•••	•••	•••	3	4	7
Total	•••	•••	•••	•••	•••	•••		102	86	188
Still Births—								М.	F.	Total
Legitimate	•••		•••		•••	•••	•••	1	1	1
Illegitimate				•••		•••	•••	_	_	_
Total			•••		•••	•••	•••	1	1	1

Rate per 1,000 Total (Live and Still Births)—10.

Death rate of Infants under 1 Year per 1,000 Births—15.

Death rate of legitimate Infants per 1,000 legitimate Births—16.

Death rate of illegitimate Infants per 1,000 illegitimate Births—Nil.

		1948	
	M.	F.	Total
Deaths.	7 8	7 0	148
Death rate per 1,000 of population from all causes		11.6	
Deaths from Cancer (all ages)		21	
Deaths from Pulmonary Tuberculosis		2	
Deaths from Puerperal Causes		Nil	
Deaths from Measles		Nil	
Deaths from Whooping Cough		Nil	
Deaths from Diarrhœa (under 2 years)		Nil	

Table of Comparative Statistics.

Pe	er 1,000 c	of Popula	tion		Materr	nal Mortality	Rate
	Live Birth Rate	Crude Death Rate	Death Rate from Pulmonary Tuberculosis	Death Rate from Cancer	Per 1000 Live Births	Per 1000 Total Live and Still Births	Infantile Mortality Rate
Mean 5 years. 1938-42	12.5	14.9	0.29	1.98	3.83	3.62	46
Mean 5 years. 1943-47	14 5	15.8	0.42	2.16	1.32	1.28	52
1947	16.1	17.4	0.58	2.51	Nil	Nil	51
1948	14.8	11 6	0.07	1.65	Nil	Nil	15
County of Lancaster (1948)	17.25	11.73	0.34	1.83	1.09	1.07	39
England and Wales (1948)	18.2	11.0	0.44	1.91	N.A.	1.02	34
Increase or decrease in 1948 on 5 years. Average 1943-47 for Fulwood	0.3	-4.2	-0.42	-0.51	-1.32	-1.28	-37
Previous year	-1.3	-5.8	-0.51	-0.86	Nil	Nil	-36

N.A.—Not Available.

These tables show slight decreases in rates for Cancer and Tuberculosis. The Maternal Mortality remained nil in 1948, and the Infantile Mortality showed a definite decrease.

These statistics were those supplied by the Registrar General and the Public Health Department of the County Council.

Population.

In 1931 the population of Fulwood was 7,387. In this number were included some 2,000 residents in Institutions. The number of these residents was approximately the same in 1948.

For 1948 the Registrar General estimated the population of the district to be 12,680, an increase of 750 on the figure for 1947.

Deaths and Death Rate.

The tables are corrected for inward and outward transfers. The Crude Death Rate was slightly lower than was that for the five-year period 1943-1947, and also lower than the preceding period 1938-1942, when the rate was 14.9. An analysis of the causes of death in 1948 is given below:

Analysis of Causes of Death		1948	
	Μ.	F.	Total
Heart Diseases	28	26	54
Intra Cranial Vascular Lesions	12	12	24
Other Diseases of the Circulation	3	2	5
Cancer all sites	12	9	21
Pulmonary Tuberculosis	1	0	1
Non-Pulmonary Tuberculosis	0	1	1
Bronchitis	1	2	3
Pneumonia and Influenza	_	2	2
Other Respiratory Diseases	5	2	7
Diseases of Digestion	1	3	4
Nephritis (Kidney Diseases)	3	1	4
Prematurity, Congenital Defects, Malformations	2	1	3
Acute Inf. encephalitis	1	_	1
Ulcers of stomach	1		1
Suicide	2	_	2
Road Traffic Accidents	_	3	3
Other Violent Causes	2	1	3
All other causes	4	5	9
Total all causes	78	70	148

Deaths from Tuberculosis.

The number of deaths from the Pulmonary form of the disease showed a definite decrease, in keeping with the decrease in England and Wales. No deaths occurred from Non-Pulmonary Tuberculosis.

Deaths from Malignant Diseases.

The number of deaths from Cancer and other Malignant Diseases showed a decrease from 30 to 21.

Infantile Mortality.

The rate was lower than that of Lancashire generally and of England and Wales. In the table below is given an analysis of the causes of death of infants under one year.

The Number of Deaths of Infants under One Year.

							Μ.	F.	Total
Legitimate	 •••	 •••				•••	2	1	3
Illegitimate	 	 •••	•••	•••	•••	•••	_		_
Total	 	 					2	1	3

Infantile Mortality Rate for Fulwood—15.

Infantile Mortality Rate for Lancashire—52.

Infantile Mortality Rate for England and Wales—34.

					M.	F.
Kern Icter	us		 •••	•••	_	 1
Premature	Births		 		1	 _
Atelectasis		•••	 •••	•••	1	 _
					_	_
	To	tal	 		2	 1

General Provisions of Health Services of the Area.

Medical Officer of Health:—G. G. Wray, M.D., Ch.B., D.P.H. (Not in General Practice). OTHER PUBLIC APPOINTMENTS—

M.O.H. Leyland U.D.C.

M.O.H. Longridge U.D.C.

M.O.H. Walton-le-Dale U.D.C.

M.O.H. Preston R.D.C.

Divisional Medical Officer—Lancashire C.C. Health Division, 4.

Sanitary Inspector:—R. Graham, M.R.San.I., Nat. Dip. Agri. (Whole time).

Public Vaccinators for Area:—Dr. Denman, Garstang Road, Fulwood; Dr. E. C. R. Couper, Fulwood Institution. After July this office was abolished.

Certifying Factory Surgeon:—Mr. A. Toulmin, Ribblesdale Place, Preston.

Laboratory Service.

The Laboratory of the Preston Royal Infirmary provided the technical assistance necessary for the examination of Bacteriological and Pathological specimens. It also was used for the Bacteriological examination of milks.

For the diagnosis of diseases the following examinations were made up to July, 1948:-

Swabs for "B" Diphtheria			•••		10
Swabs for Haemolytic Streptoc	occi			•••	12
Sputum "B" Tubercle		•••			1
Faeces and Urine		•••			3
Other Specimens					1

Reports were not issued to Local Authorities after July.

Ambulance Services.

Prior to July, Preston Corporation Ambulance Service provided the necessary transport for the conveyance of accidents, sick and maternity cases to and from hospital. The arrangements proved adequate. Private ambulances were available when required. Under the National Health Service Act, the Ambulance Services became the responsibility of the County Council, and they were administered through the Health Divisions. One Ambulance Station will be sited in Fulwood when suitable garage accommodation can be obtained or provided. Probably two ambulances and one car for sitting cases will be the vehicles based upon this station.

Nursing in the Home.

Preston Nursing Association provided nursing in the Southern parts of the Urban District. The Northern part utilised the nurse provided by the Broughton Nursing Association (affiliated to the Lancashire County Nursing Association. Under the National Health Service Act the Domiciliary Nursing Service became the responsibility of the County Council.

Midwifery. Three Nurse Midwives were provided. Their names, addresses and telephone numbers are given below:—

Miss Margaret E. Johnson, C.M.B., S.R. Miss Elizabeth Johnson, C.M.B., S.R., "Brynville," Cadley Causeway, Fulwood. Telephone 86368. Miss Slack, C.M.B., S.R.,
19, Highfield Drive,
Broughton.
Telephone—Broughton 176.

The number of Maternity cases attended by them during the year in this district was 79.

Hospital Accommodation.

General Diseases:—(1) Preston Royal Infirmary.

- (2) Sharoe Green Municipal Hospital. of Hospitals).
- (3) Mount Street Hospital for private patients.

All these hospitals provided accommodation and treatment for both Medical and Surgical cases.

Maternity. All these Hospitals provided beds in separate blocks or sections of the Hospitals. The facilities for treatment were excellent.

Infectious Diseases. The Preston, Fulwood and Longridge Joint Hospital was available for the isolation and treatment of Infectious Diseases up to July 4th. From July onwards cases were admitted to the Deepdale Hospital.

Small-pox. No cases of this disease were notified, but had any cases occurred, isolation and treatment could have been obtained at Elswick Joint Small-pox Hospital.

Malignant Disease. A special section of the Preston Royal Infirmary officered with personnel from the Christie Cancer Hospital, Manchester, was used by patients from this district. X-ray, Radium and other forms of treatment were available in this section.

Services Provided by the County Council for the Area.

Ante-Natal. Clinics for inspection, advice and treatment were available at Preston Royal Infirmary and Sharoe Green Maternity Hospitals. A Clinic for private patients was also available at Mount Street Hospital.

The Ante-Natal Clinic of the County Council at Longridge was closed during the year.

Where specialist attention was required in the home or in hospital, the County Council Consultant Service was available.

Child Welfare. The Child Welfare Centre established in the district in the year 1944 by the County Council met fortnightly throughout the year at the Parochial Hall, Vicoria Road. The number of children in attendance during 1948 was:—

Under one year	 	•••			146
From one to two years	 		•••		84
Over two years	 	•••		•••	42
Total individual children	 	•••	•••		272

They made attendances as follows:—

				826
				252
				113
••	•••	•••	•••	113
ces	•••	•••	•••	1,191
	 			·

In addition to the supervision of the babies of the district at this Centre, the County Council Health Visitor paid frequent visits to homes to give advice, to make inspections, and to make arrangements for treatment where necessary. She visited 262 homes during the year for these purposes, and in all made 1,004 visits.

The number of times the Clinic was in attendance was approximately 20. It is the intention to hold the Clinic on Wednesday of each week instead of twice per month.

School Children. Medical inspections in the schools, and inspections made there by the School Nurse were continued throughout the year. For the purpose of following up those children where treatment was required or where it was desirable to keep them under observation, the School Nurse visited 24 homes in the period under review, and in all made 39 visits to these homes. The nearest School Clinic for children of this district is at Longridge, where facilities for treatment of minor ailments, Ophthalmic and Dental condions are available.

The Preston Royal Infirmary, as in past years, was extensively used for the treatment of School Children under the County Council scheme during 1948.

The building of a School Clinic to provide treatment for the children of this and surrounding districts was interrupted and deferred by the outbreak of war, and the continued restrictions upon any building except for housing purposes since the war ended, has prevented the provision of a structure suitable for the various kinds of treatment required. Investigations into the possibilities of securing a building of even a temporary character which could be adapted for this purpose were unsuccessful, but negotiations for the provision of a Clinic are still in progress.

Tuberculosis. The Tuberculosis Staff of the Lancashire County Council provided at the Tuberculosis Dispensary in Walton's Parade, Preston, all the facilities for the diagnosis of the disease by the examination of Sputum, by X-ray and by physical examination. Cases were referred from there to Hospitals and Sanatoria.

After July the Medical staff were transferred to the Regional Hospital Board, but the nursing staff, dispensaries and clinics were provided as before by the County Council, and the work was conducted as in past years.

Tuberculosis Notifications and Deaths.

1948

		Ne	w Case	:s		Dea	ths	
Age Period Years	Resp M	iratory F	Respi	lon- iratory F	Res _I	oiratory F	Resp M	on - iratory. F
0—1		•••		•••		•••		
1—5								1
5—10				1		•••		•••
1015				1		•••		
15—20								•••
20-25				1		•••		
25—35	1	1		•••	•••	•••		
35—45	1	1			1	•••		•••
45—55	1					•••	•••	•••
55—65		2				•••	•••	•••
65 up						•••		
Totals	3	4		3	1	•••		1
		7		3		1		ĩ

Tuberculosis Treatment.

Number of admissions to Hospital or Sanatorium-7.

Number removed from Register as recovered—3.

Number of deaths—2.

Remaining on Register December, 1948 (M. 22; F. 25)-47.

The Prevalence and Control of Infectious Diseases.

The table below gives an analysis of the cases of Infectious Diseases during 1948.

Notifiable Diseases (other than Tuberculosis.)

Notifiable	Total Cases Notified															
Diseases	Total Cases	Cases Tigo : cirous Tours									Total	Hosp				
1948	All	Under 1	1-	2-	3-	4-	5-	10-	15	20	35-	45.	65 up	Deaths	Cases remvd. to Hospital	Death in Hospital
Scarlet Fever	17		ļ	1	1	2	9	1	2	1					12	
Diphtheria	3						1	1		1					1	•••
Measles	84	1	8	4	10	9	45	4		3						•••
Whooping Cough	12			2	2	1	7						•••		•••	•••
Acute Pneumonia	5									1	1	2	1	1		•••
Puerpural Pyrexia	7	•••					<u> </u>			5	2					
Cerebro-Spinal Fever	2		2													
Dysentry	4			•••		•••						2	2			
Erysipelas	3		•••	• • • •								2	1			
Totals	137	1	10	7	13	12		6	2	11	3	6	4	1	13	

No cases of Poliomyelitis occurred in 1948. The measles was of a mild type.

Immunisation against Diphtheria.

The number of children immunised during the year was 195. Of these 87 were under school age and 108 of school age. The total showed an increase of 127 as compaerd with the previous year. Medical Practitioners protected some of the children and the others received their protective inoculation from the Medical Officer of Health. In addition 304 children received reinforcement doses.

An estimate of the child population of the district for Mid-1948 was 937 in the under school group, and 1,987 in the school group.

In this district a large number of children were immunised privately, in many cases in conjunction with a serum protecting against Whooping Cough. The County Council School Nurse in the course of her visits ascertains the proportion of children immunised privately.

The coming into force of the National Health Service Act has interrupted the estimation of the percentage of children immunised, by the transference of the records from the Local Authority to the Division. It is, therefore, not possible to give a reliable estimate of the number of children immunised in the district, but it would probably be slightly lower than the previous year.

Inspection and Supervision of Food.

Milk.

The supervision and control over the Milk production and the cleanly qualities of the Milk, were continued in 1948. Inspections of farms, advice to the producers and frequent sampling of the products were all parts of the campaign to encourage a better and more wholesome milk supply.

The number of Dairy Farms in the district was 48, with approximately 930 cows.

There were 7 Dairymen other than Cow-keepers with premises in the district.

Twelve of the 48 producers in the district also retailed milk in Fulwood, and there were 12 other milk retailers with premises outside the district.

During the year 229 visits were made to farms in the district, and 49 visits to Dairies.

Repairs and improvements to the value of £1,130 were carried out at the farms; they included the re-building of one shippon, the extension to a dairy, and extensive repairs to roofs and walls of cowsheds and adjoining buildings.

The number of samples of milk taken for submission to Bacteriological tests for purity was 184, as compared with 165 in 1947, and of these 146 were satisfactory and 38 unsatisfactory, a percentage of 21, as in the previous year.

There were 159 samples tested for the presence of Tubercle Bacillus. Of these 157 were free and two were found to contain the germ. All the samples of school milk examined were satisfactory, tests for efficiency of Pasteurisation by this Authority, and tests for the presence of Tubercle Bacillus by the Lancashire County Council.

The Bacterial quality of Pasteurised milk in the district was also ascertained; 21 samples were taken and subjected to test for this purpose; all 21 samples were found to be correctly heat treated, and of a satisfactory bacterial quality.

The table below compares 1948 with previous years:—

Bacteriological.

	Samples	taken.	Sa	tisfactory.		Unsatisfactory.
1944	•••	146	•••	98	•••	48
1945		122	•••	86		36
1946	•••	101	•••	78		23
1947		165		130	•••	35
1948		184		146	•••	38

Tubercle Bacillus.

	Sample	s taken.	Absent.	Present.
1944		148	 147	 1
1945		116	 112	 4
1946		101	 99	 2
1947		128	 125	 3
1948		159	 157	 2

Further details of the year's sampling are given in Mr. Graham's report. There was one Pasteurising Plant in the district.

Four dealers' licences were issued for Pasteurised Milk and one for Tuberculin Tested milk.

Two Supplementary licences were issued for Pasteurised milk and two for Tuberculin Tested milk.

Samples of milk were also taken for the County Council and submitted to tests, giving the following results:—

Accredited Milks.

	Bacte	eriologie	cal Sar	nples					Т	`ubercle	Bacill	us.
		nples iken.	Sati	sfactor	y. Uns	atisfac	tory.	Samples Taken.		Absent.	Pr	esent.
1948		43		33		10		36		36		Nil.
					Tube	rculin	Testec	f Milks.				
1948		16		13		3		14		14	•••	Nil.
					Tuber	culosis	Orde	r, 1938.				

The two samples of milk which were positive for the Tubercle Bacillus were reported to the Ministry of Agriculture through the County Medical Officer of Health. The diseased animals were not found.

Meat and Other Foods.

The one slaughter-house in the district which was licensed to slaughter horses for human consumption, was inspected daily. Details of the horses slaughtered, and the number of organs diseased and condemned as unfit for human consumption will be found in Mr. Graham's report.

The Butchers' Shops. Regular inspections were made of the nine shops in the district. The quality of the products sold and the standard of cleanliness were satisfactory.

The Bakehouses. The twelve Bakehouses upon inspection were found to be reasonably satisfactory. Improvements were made at two of them to give more working space, and to provide better washing facilities.

Hawkers' Vehicles were inspected and were generally satisfactory.

Milk Vans and Carts were inspected when samples of milk were taken, and were found to be in a good condition.

Ice Cream. There were nine registered premises at the end of the year. Samples were taken regularly from these and from itinerant vendors.

The results of analysis, shown in more detail in the Sanitary Inspector's report, were rather better than in 1947, with 76% satisfactory as compared with 62.5% in 1947. The Ministry of Health suggests that 80% should be the target figure.

Number of samples taken		•••		66
Grade I. (Excellent)		•••	•••	35
Grade II. (Good)				15
Grade III. (Poor)	•••	•••	•••	10
Grade IV (Bad)				6

The really significant results of the continual inspections of premises and subsequent sampling of Ice Cream were that the manufacturers who had produced an unsatisfactory product ceased to send it into the district, or had, as a result of our efforts, taken steps to improve the quality of their Ice Cream.

If the month of July be excepted, when the weather was unfavourable to good keeping qualities, the improvement noted in the bacteriological quality of Ice Cream was a progressive one.

Qualitative Examination of Food. The County Council is the Authority for the Food and Drugs Act. The County Sampling Officer took samples and supplied the following results. He was assisted by Mr. Graham in the taking of milk samples.

33	Samples of Milk	All satisfactory with the exception of three.
1	Sample Mixed Pickles	
6	" Beef Sausage	3 Satisfactory, 3 Unsatisfactory.
1	Sample Malt Vinegar	
1	,, Distilled Vinegar	,,
1	,, Tarragon Vinegar	,,
1	,, Plain Flour	,,
2	Samples Castor Oil	,,
2	,, Olive Oil	,,
1	Sample Cider	,,
2	Samples Cooking Fat	,,
1	Sample Soft Drink (Wonder Orange)	• •
1	", Epsom Salts	,,
2	Samples Lemon Curd	• •
1	Sample Margarine	,.
1	,, Aspirin Tablets	,,
1	,, Soft Drink (Frudae)	,,
1	,, Soft Drink (Lemonade)	,,
1	,, Lemon Cheese	Unsatisfactory.
1	,, Tincture Iodine	Satisfactory.
1	,, Glauber Salts	**
1	" Boric Acid Ointment	15
2	Samples Bread	"
4	,, Canned Soups	,,
1	Sample Pure Apple Juice	"

In the case of the unsatisfactory samples, vendors were notified and cautioned, and one prosecution resulted in the vendor being fined; this was in connection with a sample of beef sausage which was 26% deficient of the minimum percentage of meat.

Condemnation of Food Unfit for Human Consumption.

The amount of food surrendered as unfit for human consumption was:—1,802 lbs. fruit, 173 lbs. Vegetables, 64 lbs. canned foods, and 166 lbs. other foods.

Water Supply.

As in previous years, the established practice of giving an extensive report of the Water Undertaking of the Authority has again been followed.

Mr. Holmes has prepared a detailed report which is appended. The Bacteriological quality of the water has been satisfactory, and the samples taken in practically every case showed a small residium of chlorine present, insufficient to be perceptible to taste or smell, but sufficient to discourage the growth of harmful bacteria. The chemical qualities of the water were also satisfactory, and plumbo-solvent action was absent.

The Authority's own supply was supplemented by supplies from the Fylde Water Board and by a small addition from the Preston Corporation supply.

Sewage and Sewage Disposal.

There was no change in the method of disposal during the year. The North side of the district is still unsewered, and until the control upon labour and materials is relaxed, and Departmental permission given to proceed with the work, this unsatisfactory state of affairs will continue.

Rivers and Streams.

The County Council, through its Rivers Pollution Board, is responsible for the rivers and streams in the district. The cleansing of a choked portion of the Eaves Brook was undertaken by this Authority.

Closet Accommodation.

The water carriage system was universal throughout the District in 1948:—

Number of premises supplied with water—3,572.

Number of houses on the water carriage system—3,529.

Number of fresh water closets—3,682.

Number of privy middens—4.

Number of pail closets—10.

Public Cleansing.

There were 4,372 ashbins and one ashpit in the district. These were emptied weekly.

The Department of the Engineer and Surveyor is responsible for this work, and also for the collection of salvage.

Sanitary Inspections in the District.

Details of the inspections carried out will be found in the Sanitary Inspector's report appended. Details of the general sanitary work carried out and improvements made are also shown in the same appended report.

Housing.

During the year 15 new houses were completed, a further 8 were in the course of erection at the end of the year, and 51 were contemplated (including 11 by Private Enterprise and 4 for Agricultural Workers).

The number of houses inspected for defects was 157, necessitating 749 inspections. Five of these were found to be in a state unfit for human habitation. As the result of informal notices improvements were made at 111 houses. Further details will be found in Mr. Graham's report.

Overcrowding.

Four cases of overcrowding, in which 21 persons were concerned, were abated during the year.

Three new cases of overcrowding came to light as a result of visits paid to premises occupied by applicants for Council houses. Some 46 applications have been dealt with for the Housing Sub-Committee. The Sanitary Inspector has visited and made reports, upon which recommendations have been made for the assistance of the Committee.

School Accommodation.

The Schools were still overcrowded. The shortage of accommodation has been aggravated by the retention of the upper age group in schools. New schools are contemplated which, when built, will relieve the congestion of pupils in classes in the existing schools.

Factories' Act.

There were 26 Factories on the register, and 74 inspections were made to these premises. Improvements were made at three of them.

Smoke Abatement.

black

During the year many complaints were received about the excessive amounts of smoke emitted from two chimneys in the district. Many observations and tests were made, and methods of use of the firing plants were investigated. Advice was sought from the Ministry of Fuel, and one of their inspectors made an inspection of the offending plants. As a result of these measures, one of the chimneys ceased to be a source for complaint. The other, in spite of the advice given, warnings, and tuition in firing, still was not satisfactory, and until new methods are adopted and new machinery installed, it will not be possible to secure a satisfactory smoke effluent.

Rodent Reports.

A short report on the work done in the district to control rat and mice infestation is given by Mr. Marsh.

Appended Reports.

- (1) Report of Mr. Graham, Sanitary Inspector.
- (2) Report of Mr. Holmes, Water Engineer.
- (3) Report of Mr. Marsh, Rodent Operator.

In conclusion, I should again like to pay tribute to the work of Mr. Graham, who has been guide, counsellor and friend to the inhabitants of the district. Miss Stirzaker's efficiency and excellent recording of data has added greatly to the ease of the work. Mr. Marsh as Rodent Operator, as Disinfector and as general helper in the Department has also done yeoman work.

My thanks are due to all the other officials of the Urban District, whose co-operation and assistance have been given freely.

Finally, I desire to express my appreciation of the courtesy, support and encouragement extended to me at all times by the Chairman and every Member of the Council.

I am,

Your obedient Servant.

G. G. WRAY.

12th August, 1949.

SANITARY INSPECTOR'S ANNUAL REPORT - 1948.

Mr. Chairman and Members of the Council,

In my report for 1948 I have followed the general lines of the previous year's report, by giving tabulated figures of environmental public health visits and the results of notices and advice. Attention is drawn to any marked differences between the figures for 1947 and 1948.

A comprehensive report of milk sampling results throughout the year has been shown in comparison with the 1947 figures, and Ice Cream sample grading has been treated in a similar way.

Details of Sanitary Inspections, 1948.

				No. of Public Health						
				No. o	f N	No. of	f N	uisai	nces	and Defects
Type of Premises.				Visits	P	remis	es D	iscov	v'ed	Abated
Licensed Slaughter House			•••	278		1		2		1
Farms				229		49		2		2
Dairies	•••		•••	57	• • •	7		1	• • •	1
Bakehouses				54		12		2		2
Ice Cream Premises		•••		81	• • •	9		1	•••	1
Other Food Premises				111		23		3		2
Factory Act	•••			74	•••	27	•••	3	•••	3
Schools and Institutions			•••	36	• • • •	10	•••	5		4
Houses—Advisory visits	•••		•••	87		68		5		5
,, Drainage				348		73		59	•••	52
,, General Defects	•••			401	• • •	84	• • •	67		54
Housing Applications	•••			58		46	•••	6	• • •	5
Infectious Disease			•••	44	• • •	28		19		19
Rodent Control		•••	•••	310		169		65		63
Miscellaneous			•••	170	•••	56	•••	7	•••	6
			-		-		-		-	
Total	•••	•••	•••	2,338		662		247		220

The following work was carried out at the number of dwelling houses stated, mainly as a result of informal or statutory notice.

Sanitary Improvement.				Num	ber of Houses
Ashpits abolished			•••		1
Caravans removed		•••		•••	1
Brickwork extensively repaired		• • •	• • •	• • •	4
Disinfections		•••	•••	•••	21
Drains cleared	•••	• • •	• • •		42
Drains repaired or re-laid		•••	•••	• • •	35
Gutters renewed		•••			18
Plaster-work renewed					11
Premises cleansed or disinfested					3
Roofs repaired					13
Rain-water fall pipes renewed			•••		10
Sanitary accommodation improved					5
Trough closets converted					5
Verminous persons cleansed					4
Ventilation improved				• • •	6
Water pipes repaired		•••			3
Wood-work repaired or renewed					13
Sundry Public Health nuisances ab	oated	•••	•••		15

The number of Statutory Notices served was four, but the work required by these Notices was carried out without having to resort to legal proceedings. There were also one hundred and ninety-five Informal Notices, with twenty-seven outstanding at the year end.

About 400 more visits were necessary than in 1947, with approximately 100 more premises visited. About 10 per cent. of the houses in the district were visited during the year.

The Slaughter House, Farms and Dairies received about the same number of visits as in the previous year, but the number of visits to other food premises rose from one hundred and eighty-three to two hundred and forty-six.

The number of visits to dwelling houses on complaint, upon request for advice or to inspect work in progress, increased from two hundred and twenty-five to two hundred and seventy-two.

Rodent Control visits also increased in numbers, and about one hundred more premises were inspected for this purpose than in 1947, the difference being chiefly a matter of survey. Mr. Marsh, the Rodent Operator, has given more details of his work in a separate report, but he has rendered equally valuable service in the disinfection of premises and articles after infectious disease, the testing of drains and assistance with the investigations of dampness and flooding at many premises.

Milk Production and Distribution.

The number of milk-producing farms in the district is forty-eight. Three of them produce Tuberculin Tested milk, and nine produce Accredited milk.

Thirty-one farmers or dairymen retail milk in the district. Twelve of them are among the Fulwood milk producers, seven are Dairymen with premises in the district, and the remaining twelve have farms or dairies outside the district. Milk from five Tuberculin Tested and eleven Accredited herds is retailed within the district, and an increasing number of dairymen are delivering more than one grade of milk.

Samples of milk from each source of supply sold or produced in the district have been taken in each quarter of the year so far as possible.

As regards the samples produced in the district, seventeen of the forty-eight producers had 100% satisfactory results, and nineteen more had only one unsatisfactory sample. Samples were taken more frequently from the remaining producers, and special investigation was made into the methods of production and possible causes of failure of those still having too large a percentage of unsatisfactory results after general advice had been given. This dealt with cleanliness of animals, buildings and utensils, the latter being tested by taking rinses for bacterial examination, which in several cases showed cleansing and sterilisation methods to be at fault, and resulted in a few cases in marked improvement after the cause had been demonstrated.

Unsatisfactory results of milk samples produced outside the district have been notified to the producers and to the Health Department of the Local Authority in whose district the milk sample was produced.

Results of Various Tests to which Milk Samples were Submitted.

Tuberculin Tested and Accredited samples from herds in the district are taken for the Lancashire County Council. All other samples produced or sold in the district for the Fulwood U.D. Council.

-		. •
De	sign	ation.

Designation.	Sedimentation Test for Cleanliness.										
T.T Accredited Total T.T. and Accredited All other samples	1947. 6 43 49 165	1948. . 16 . 43	1947. 6 38 44 143	Passe0	1948. 16 43 59 171	F 1947. Nil. 5 5	`ailed	1948. Nil. Nil. Nil.			
Total	214	. 243	187	•••	230	27	•••	13			
Percentage			88	•••	94.7	12	•••	5.3			
Bacteriological Tests.											
Designation. Bacillus Coli Test.											
	Tot	Total. Passed.				Failed.					
	1947'.	1948.	1947'.		1948.	1947'.		1948.			
" T.T."	6		6	• • •	14	Nil.	• • •	2			
Accredited	43	43	37	• • • •	39	6	• • •	4			
Total T.T. and Accredited	49	59	43	•••	53	6	•••	6			
All other samples	165	184	148	• • •	162	17	•••	22			
Total	214	143	191	•••	215	23		28			
Percentage			89.2	25	88.5	10.75	5	11.5			
Designation.			Methyl	ene l	Blue Test	•					
	То	tal.	Passed.			Failed.					
	1947'.	1948.	1947'.		1948.	1947'.		1948.			

" T.T."			
Accredited	d		,
Total T.T	and A	<i> ccrea</i>	lited
All other	sample	s	
TOTAL			

PERCENTAGE

	1	Γotal		F	assec	1.	Failed.			
	1947'.		1948.	1947'.		1948.	1947'.		1948.	
	6		16	5		13	1		3	
	43	• • •	43	34		33	9	• • •	10	
	49		59	39		46	10		13	_
ı	165		184	130		146	35		38	
Į	214		243	169		192_	45	•••	51	

79 79 21 21 Designation.

Tubercle Bacillus.

	Tot	al.	Pass	ed.	Failed.		
	1947'.	1948.	1947'.	1948.	1947'.	1948.	
" T.T."	6	. 14	6	. 14	Nil	Nil.	
Accredited	38	. 36	36	36	2	Nil.	
Total T.T. and Accredited	44	. 50	42	. 50	2	Nil.	
All other samples	128	. 159	125	. 159	3	2	
Тотац	172	. 209	167	. 209	5	2	
Percentage			97.1	. 99	2.9	1.0	

MEAT AND OTHER FOODS.

Horse Meat

Daily visits have been paid to the slaughter-house throughout the year. The carcases of all animals slaughtered have been inspected, and most of the animals have been seen before slaughter. At this slaughter-house horses only are slaughtered and are subsequently sold in Preston for human consumption, two hundred and eighty-three having been inspected during the year. Only the following organs and meat were found to be unfit for human consumption:—Sixty-five Livers, four Heads, four Kidneys, and sixty-two pounds of meat. The chief cause of unfitness was worm infestation.

Pigs.

A number of pigs slaughtered privately and not for sale have been inspected by agreement with the owners, and the small amount of meat found to be unfit for human consumption has been surrendered.

Meat Products.

There has been supervision of the conditions under which these products are manufactured in the district, and producers have always been willing to act upon suggestions for improving such conditions where some alteration was needed.

Ice Cream.

The one manufacturer and eight retailers in the district are visited regularly and their products sampled for bacterial quality. They have all co-operated with the department in an effort to sell a safe food.

The sampling figures show that some progress has been made in this direction.

The worst bacterial sampling results have been from ice cream manufactured outside the district and sold from hand-carts without being pre-packed. Such samples have been taken as frequently as possible and have been uniformly bad; only threat of seizure of the product has caused their withdrawal from sale in the district.

Pre-packed ice cream from adjoining districts has been much better, and the local product has also been generally of good grade and quality.

Grading of Ice Cream Samples Submitted for Analysis.

	Total No. of Samples.		Grade I. Grade II.		Grade	III.	Grade IV.			
	1947.	1948	1947.	1948.	1947.	1948.	1947.	1948.	1947.	1948.
Local Product	13	13	7	8	4	3	2	1	_	1
Other Samples	38	53	12	27	9	12	9	9	8	5
Total	51	66	19	35	13	15	11	10	9	8
Percentage .			37	53	25.5	23	21.5	15	16	9

1947—Grades 1 and 2—62.5% (Satisfactory).

1948—Grades 1 and 2—76% (Satisfactory).

The following food was surrendered after being inspected and found unfit for human consumption. Much of it was at N.A.A.F.I. premises at the Barracks:—

Vegetables—

Peas			•••	•••	•••	5 lbs.
Potatoes	•••			•••	•••	112 lbs.
Tomatoes		•••	•••	•••		56 lbs.
						= 173 lbs.

Fruit-

Apples	•••		•••	•••		822 lbs.
Cherries		•••	•••	•••		6 lbs.
Grapes	•••	•••		•••		11 lbs.
Grapefruit	•••					322 lbs.
Oranges	•••			•••		601 lbs.
Pears	•••					30 lbs.
Plums				•••		4 lbs.
Peaches		•••	•••		•••	6 lbs.
						=1802 lbs.

Canned Food-

Apricots				•••	•••	10 lbs.
Baked Beans			•••	•••	•••	4 lbs.
Evaporated	Milk				•••	34 lbs.
Peas	•••			•••		5 lbs.
Peaches						8 lbs.
Salmon						2 lbs.
Soup		•••		•••		1 lb.
_						=64 lbs.

Other Foods-

Bacon	• • •	• • •	• • •	• • •	• • •	10	Ibs.	
Eggs				•••		2	lbs.	
Fish				•••		126	lbs.	
Pickles			•••			20	lbs.	
							= 166 lbs	

Total 2,205 lbs.

General Sanitation.

Whilst supervision of food supply and survey of houses for sanitary defects have been the chief part of the work of the department, the factories and workships have also been visited, and the few defects found have been remedied.

Attention has also been given to smoke emission. One of the two installations responsible for most smoke nuisance in the past has been improved and is now rarely troublesome, but the other one is still the cause of considerable smoke nuisance chiefly due to overloading, and is not likely to become satisfactory without major alterations and enlargement of the plant to keep pace with the increase of load.

Unmade roads and vacant plots of building land are a continual source of complaint, due to chokage of drains and sewers with ashes from the roads, and the indiscriminate dumping of garden refuse and other unwanted material without regard to the amenities of the district. The co-operation of all concerned is necessary, and is being sought to safeguard public health in this direction.

Lack of sewers and the large number of unsatisfactory "Septic" tanks in the Northern part of the district cause continual fouling of the streams, which are also choked from time to time from various causes. Only by sewering of the whole district can serious risk to public health from this cause be averted.

In conclusion, I wish to thank the Chairman and members of the Council for their interest and support, the Medical Officer of Health for his confidence and guidance, and my colleagues for their help and co-operation.

I am.

Yours faithfully,

ROBERT GRAHAM.

5th July, 1949.

FULWOOD URBAN DISTRICT COUNCIL.

Water Supply, 1948.

The total supply throughout the Undertaking amounted to 349,720,000 gallons, which was equivalent to an average daily consumption of 955,519 gallons.

Twenty-one samples were taken for bacteriological analysis by the Council's Consultant Analyst, from various consumers' premises, and the results were as follows:—

В.	Coli absent in 100	c.cs. —	16	samples.		
35	B. Coli present in	100 c.cs.—	1	sample,	Ref.	195b.
13	,,		1	sample,	,,	193b.
5	,,		1	sample,	,,	198b.
4	**		1	sample,	,,	197.
2	,,		1	sample,	,,	196.

The "positive" counts were all of an ephemeral non-faecal character, and subsequent investigation of the highest of these (viz., Ref. 195b) showed not the slightest evidence of any infection. The Analyst's opinion following this particular case being as follows:—

"The series, in fact, of the 19th ult. show a maintenance of the wholesome quality consistent with the treatment afforded at Barnsfold."

The above twenty-one samples included twelve chemical examinations, and revealed residual chlorine to be present in concentrations ranging from 0.01 to 0.07 parts per million.

Toxic metais (lead, etc.). Samples taken throughout the Area of Supply have shown lead to be absent or, if present, in amount having no hygienic significance.

The pH value was determined on eight occasions and the results varied between 6.5 and 7.0.

Typical detailed bacteriological and chemical analyses are set out at the end of this Report. The "positive counts" as shown above were met by maintaining the chlorine residual at the operational control-point (Lower House Farm, Goosnargh) at the prescribed value of 0.1 p.p.m.

Following the fracture, on the 5th June, 1948, of the 12-inch trunk main at the junction of Watling Street -Road and Gammull Lane, when the supply to several thousand consumers was interrupted, the precaution was taken of sampling the supply after the water had been turned on, and this proved to be satisfactory (B. Coli per 100 c.c. being Nil).

The inlet waters to the Barnsfold Reservoirs were treated with chloramine so as to ensure, as far as possible, a chlorine residual of the order of 0.6 p.p.m. in samples taken at the inlet cills to the reservoirs.

The water in the outlet main, immediately downstream of the reservoirs, was also treated with chloramine, and an injected dose of 0.10 to 0.2 p.p.m. generally ensured a chlorine residual throughout the distribution system.

Three thousand five hundred and forty-three houses in the Urban District were supplied from the mains at the end of the year, in addition to eight Institutions and twenty-one unoccupied premises.

Thirty-one additional supplies, comprising four farms, twenty-three houses and four troughs, within the Water Supply Area, but outside and Urban District, were afforded from the water mains system.

The rainfall for the year, as measured at the Barnsfold Reservoirs, was 46.87 inches, as against 41.36 inches at Haighton Reservoir. Monthly rainfall records as observed at both these gauges, were forwarded to the Meteriological Department. The driest month was May with a total rainfall of 1.43 inches, and 21 days when no fall was recorded. January was the wettest month with a total fall of 8.66 inches.

The minimum quantity of water in storage occurred on the 26th May, and was 43 million gallons, compared with 25 million gallons during 1947, which was a Drought Year.

The year generally was mild, and the maximum daily consumption (as recorded by Venturi Meter at Barnsfold) occurred on the 6th March, and amounted to 1,075,000 gallons. The average daily consumption for the year was 955,519 gallons, compared with 947,974 gallons for last year, an increase of approximately 1%.

Main extensions were carried out as required to meet housing and other requirements:—

Thornton Avenue.
Queens Road.

Elston Lane (Grimsargh).

These involved the laying of 100 yards of 3-inch diameter spun iron pipes and 227 yards of 3-inch diameter asbestos-cement pipes.

During the year under review the laying of the 6-inch diameter asbestos-cement main from the 10-inch at Camforth Hall to Goosnargh Village (northern end of Church Lane) was completed by the laying of a further length of 1,430 yards, thus bringing the total length of this main to 2,000 yards. As a result of bringing this new main into commission the supply conditions, in the Goosnargh Area generally, have been greatly improved.

In connection with the Lytham Road Private Street Works a length of the old 7-inch cast iron main, under the main line railway bridge, was replaced by 50 yards of 7-inch diameter spun iron pipes.

Two lengths of old distribution mains have been scraped, by using a scraping machine kindly loaned by the Preston Rural District Council, Water Department. As a result of this work the pressures and flows were appreciably increased. The lengths involved were as follows:—

Fulwood Row—200 yards of 3-inch main. Brookfield Avenue—154 yards of 2-inch main.

An unusually large number of bursts on both trunk and distribution mains have occurred during the year, the total number of 13 being as analysed below:—

One 12-inch trunk main.
Two 7-inch trunk mains.
Eight 3-inch distribution mains.
Two 2-inch distribution mains.

Eleven new hydrants of the screw-down type have been fixed. The total number of hydrants 551, within the Area of Supply, at the 31st December, 1948, was made up as follows:—

Total number of Ball Hydrants 395.

Total number of Screw-down Hydrants ... 156 (including 2 on the Chipping 6-inch main outside Statutory Area).

Total No. of Ball and Screw-down type Hydrants 551

The general statistics, for the Council's Water Undertaking as a whole, at the end of the year were as follows:—

Consumers meters 66

Total Capital Expenditure ... £100,000

Average Daily Consumption ... 955,519 gallons.

Statutory Area of Supply ... 18.576 acres, or 29.026 square miles.

Total length of mains ... 67.1 miles.

General routine maintenance of the Undertaking was carried out, and the following general summary gives a brief survey of the work entailed.

No. of inspections made at consumers' premises-729

No. of stop-cocks cleaned—46.

No. of sieves cleaned—275.

No. of service leakages repaired—140.

No. mains fittings (i.e., valves and hydrants, etc.) repaired—24.

No. of mains flushed—557.

No. of new connections-45.

No. of new washers fixed—1,917.

Typical Detailed Analyses based on Samples taken during Year ended 31st December, 1948. Supply at Lower House Farm. 9-40 a.m. 7:6:48.

Physical Characters. A clear water with faint yellowish-brown cast, free from odour and containing a mere trace of vegetable deposit.

Hazen	value	 30	nН	 6.7	7

Analytical Returns-

Parts per 100,000.

Total solid matters	•••	•••	•••	11.2
Total hardness				4.0
Temporary hardness	•••	•••	•••	1.6
Permanent hardness				2.4
Combined chlorine			•••	1.3
Ammoniacal nitrogen (free &	saline an	nmonia)		0.001
Albuminoid nitrogen (Album	inoid An	nmonia)	•••	0.006
Nitrous introgen (Nitrites)				Nil.
Nitric nitrogen (Nitrates)			•••	0.04
Oxygen absorbed in 3 hours	@ 26.7°C	D	•••	0.082
Heavy metals (lead, etc.)				Nil.

BACTERIOLOGICAL ANALYSES.

Sample taken.

"B" Coli aerogenes	•••	In both cases	a full ran results t	•	tubes gave negative ghout.
Probable number (per 100 c.	.c.)	•••	0	••	0
Upon incubation	•••	No. of colonies of	developin	g on	yeastrel agar per c.c.
Two days @ 37°C		(0(moulds o		33 organic significance)
Three days @ 20°C.	•••		_	•••	-

NORMAN HOLMES, A.M.I.C.E., A.M.I.Mun.E.,

20th January, 1948 9th November, 1948.

Waterworks Engineer.

RODENT REPORT, 1948.

Mr. Chairman and Members of the Council,

The year 1948 showed a slight increase in the number of complaints of rodent infestation, 58 having been received against 55 for 1947.

The normal procedure of investigation was carried out, and resulted in 48 private premises being treated for rat infestation and 7 for mice. In addition, treatment was made at one Food Shop, one School and Fulwood Barracks, and infestation was cleared at all the premises.

One Test Baiting and two Maintenance treatments were made in the Council's Sewers, and these showed infestation to be slight. The Council's Tip at Fulwood Row was treated periodically and infestation kept to a minor degree. Survey was carried out at regular intervals on previous infestations, and also on tips and watercourses. General survey of premises was made throughout the district, especially those considered most liable to infestation. Where infestation was due to faulty drains and/or structural defects, a report was made to the Sanitary Inspector, who advised owners and saw the work was done satisfactorily.

The estimated kill of rats in private dwellings was 211; in addition 14 were killed by traps. The estimated kill at business premises was 42, and at Local Authority premises, including sewers, 95.

Total estimated kill, 348 by poison, and 14 by traps. The poisons used were Zinc Phosphide and Arsenic.

Thanking you for your continued trust and confidence.

Yours respectfully,

JOHN J. MARSH.

26th February, 1949.





